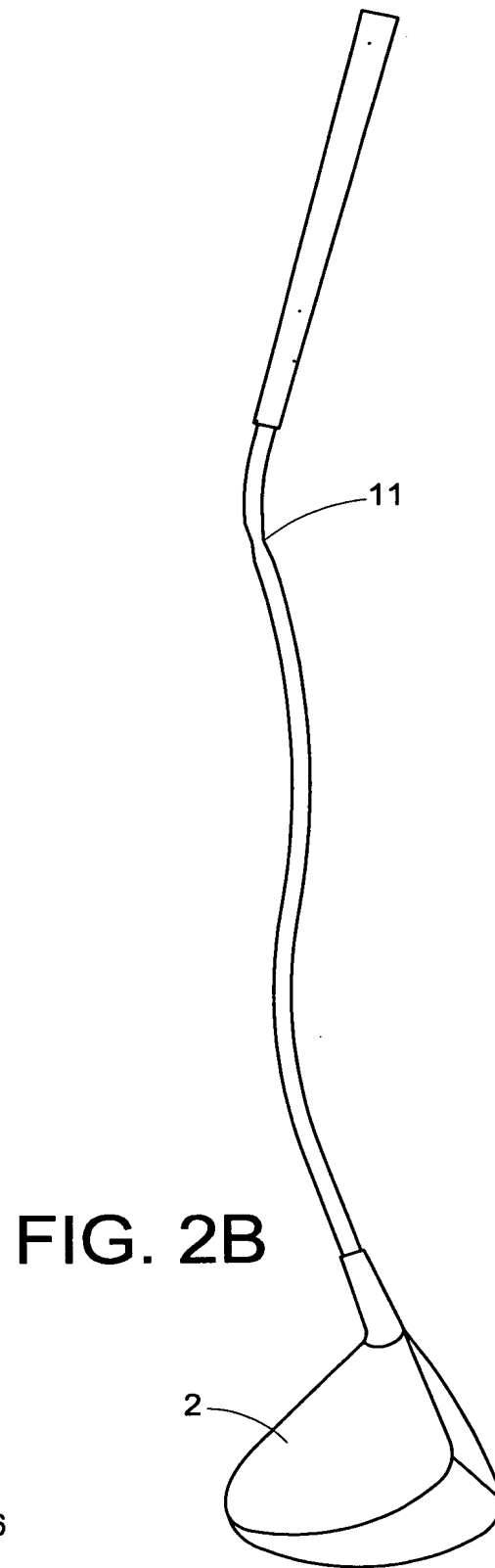
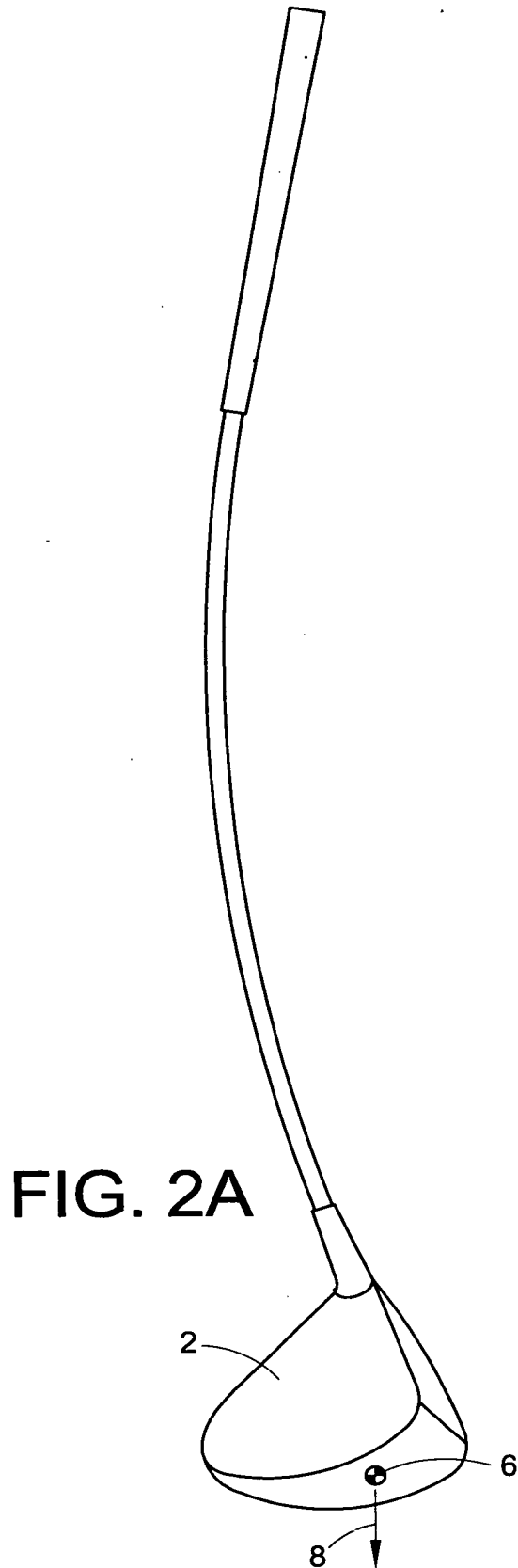
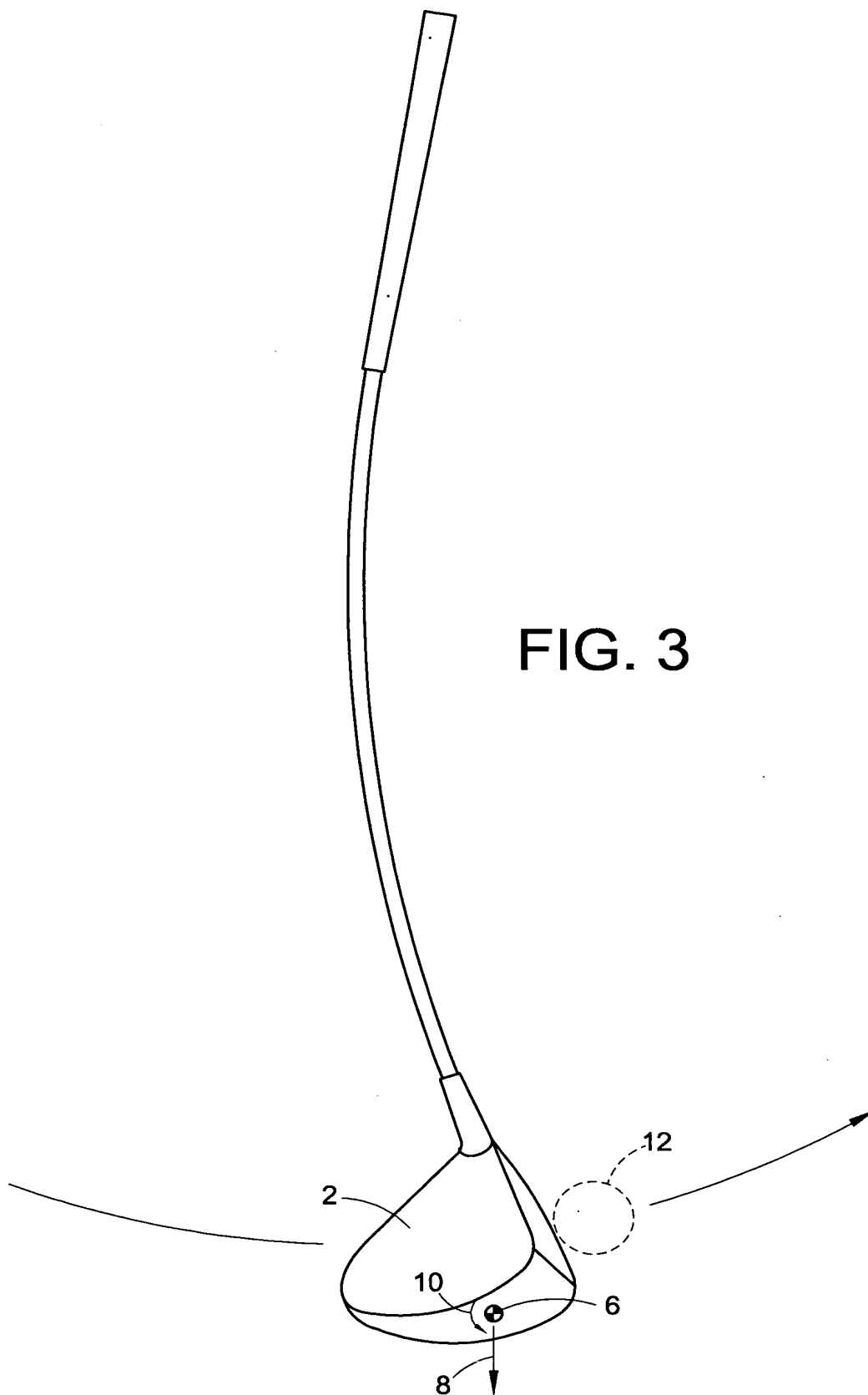


FIG. 1





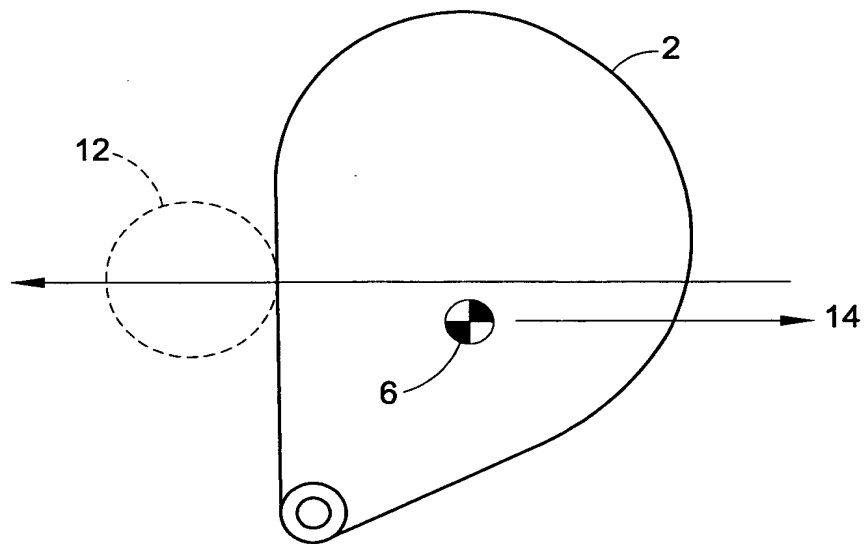


FIG. 4A

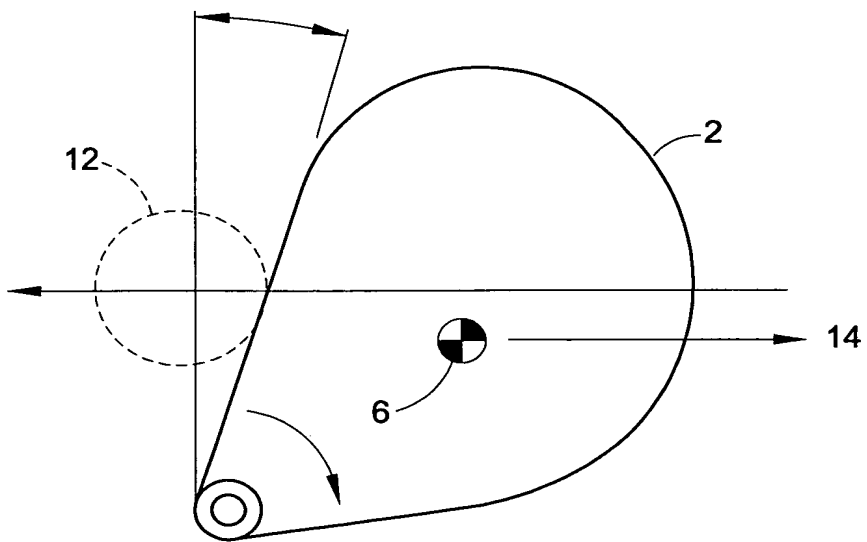


FIG. 4B

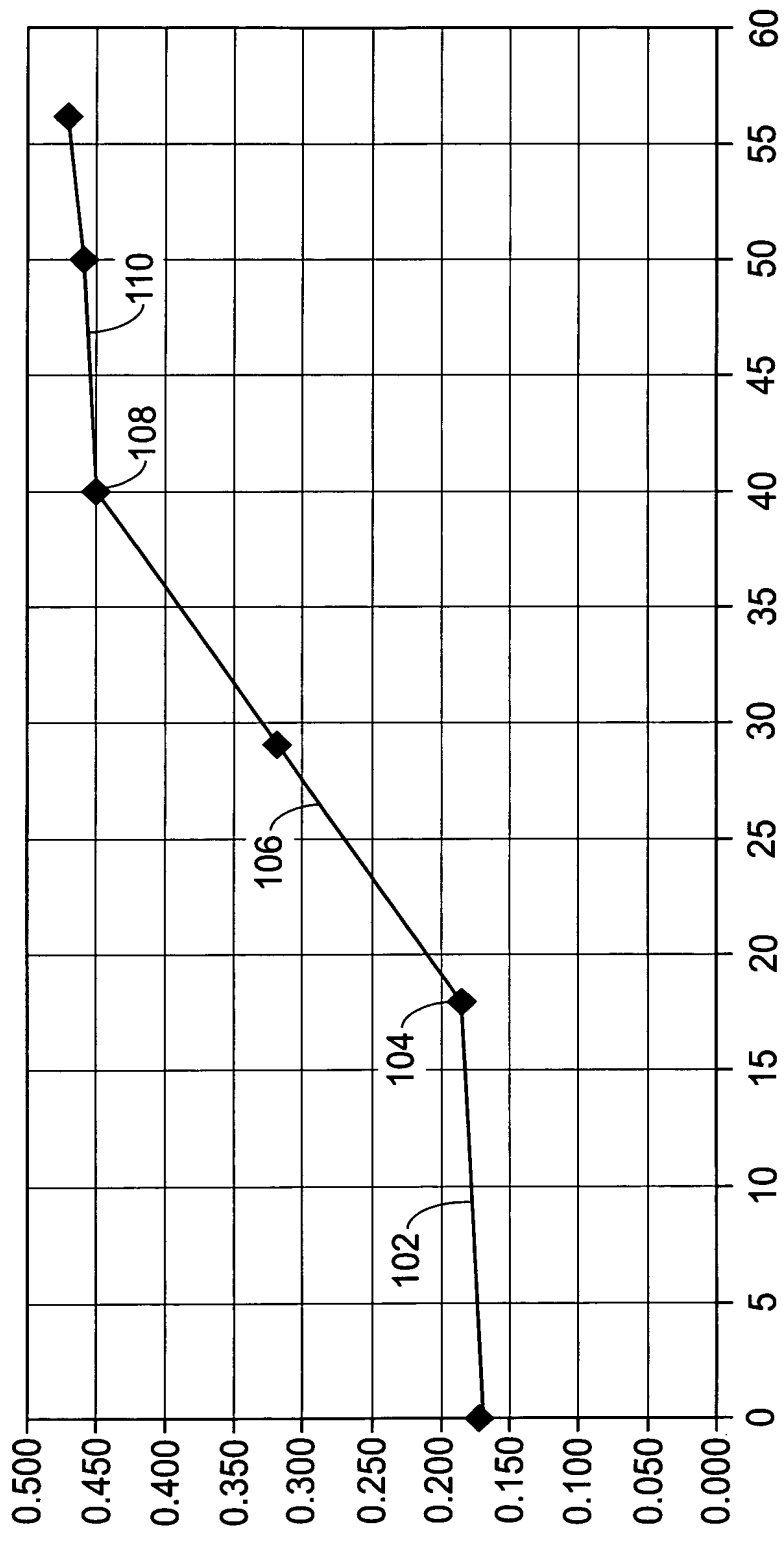


FIG. 5B

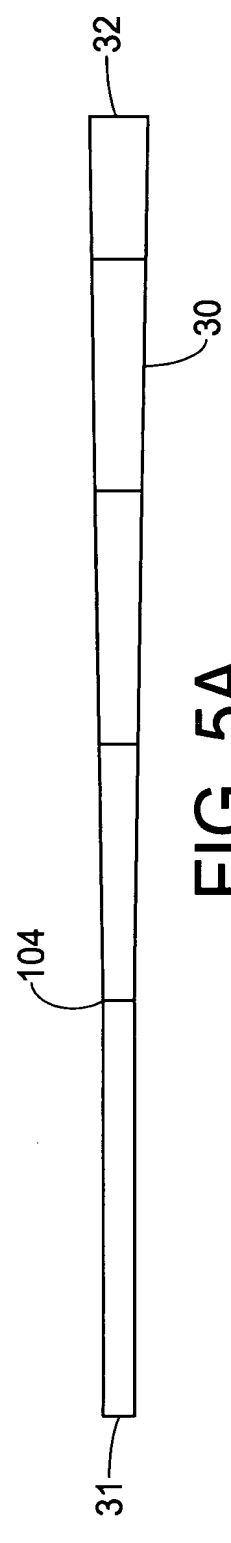


FIG. 5A

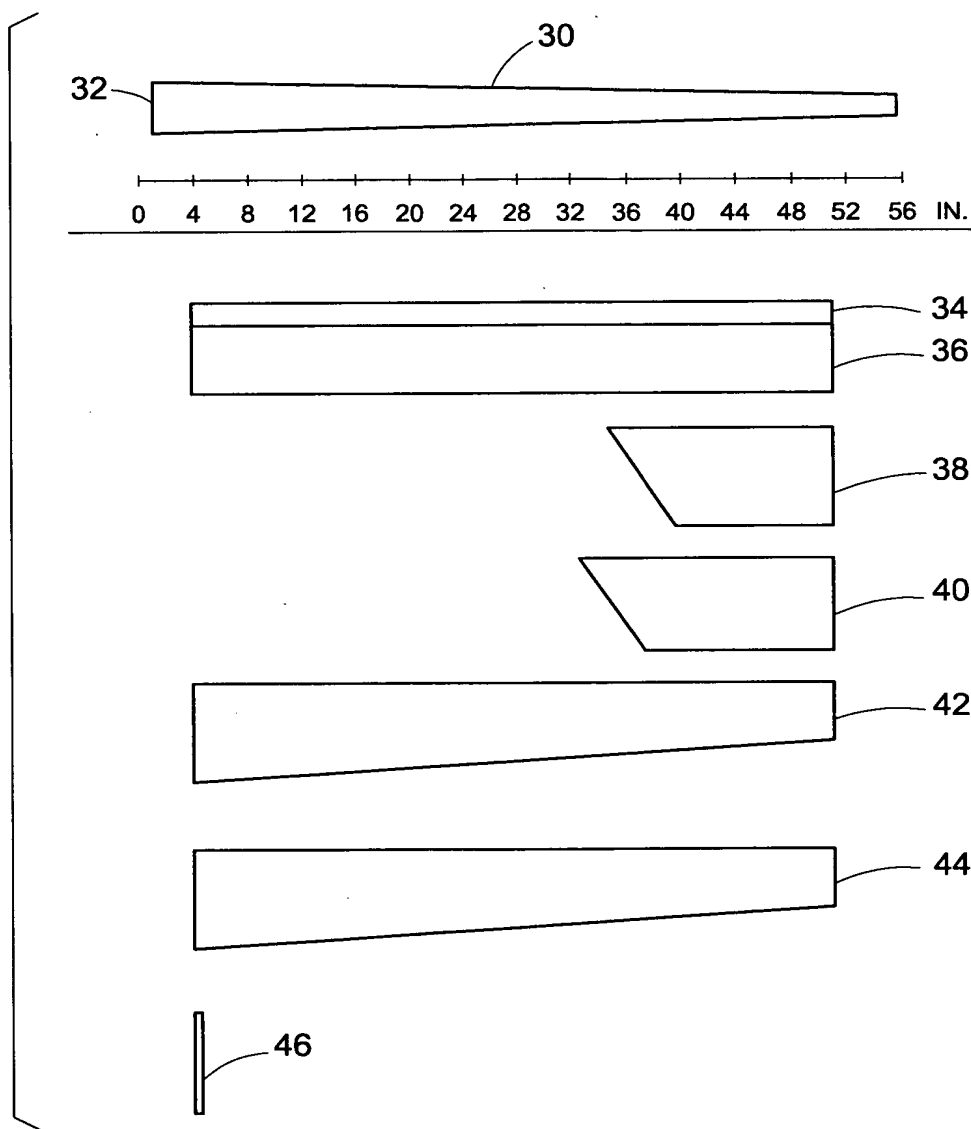


FIG. 6

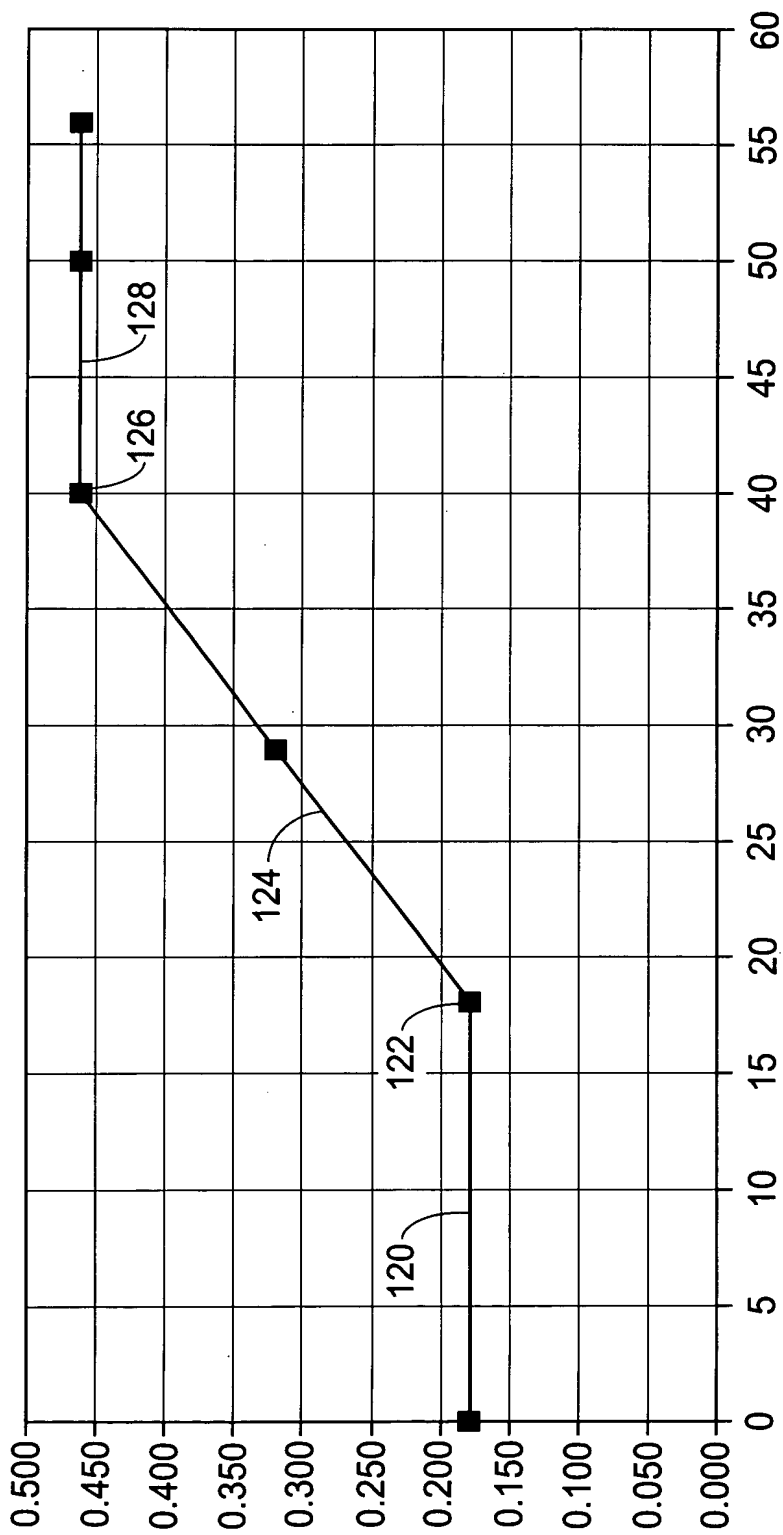


FIG. 7B

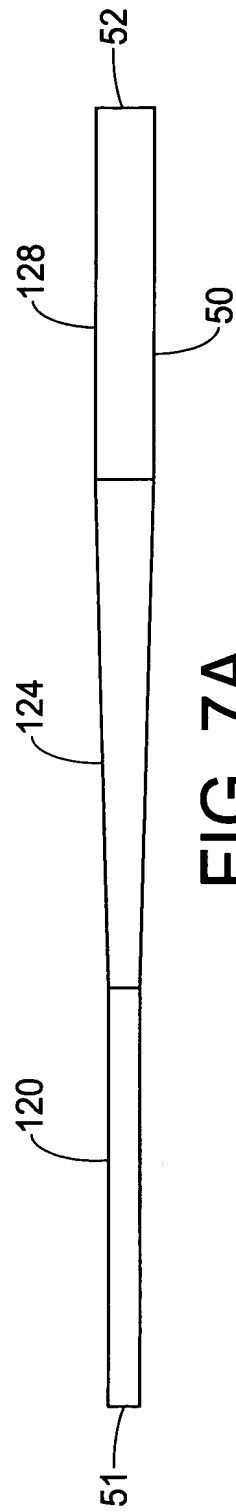


FIG. 7A

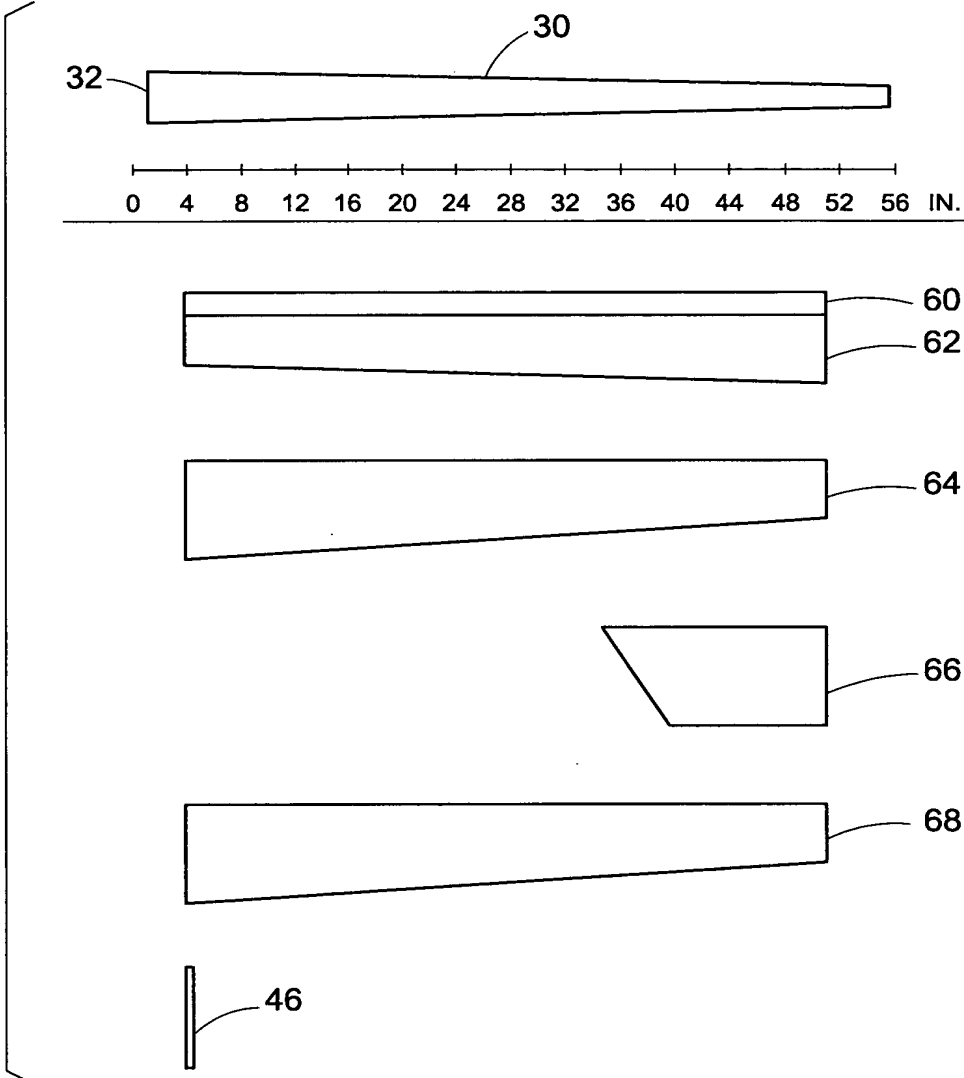


FIG. 8

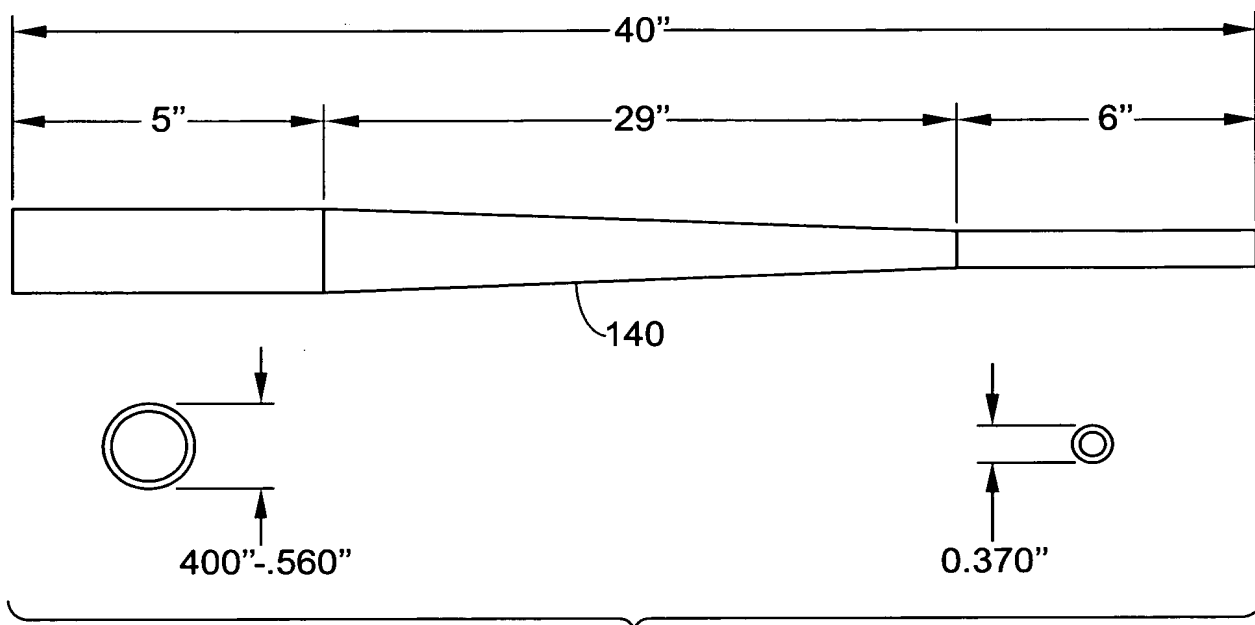


FIG. 9A

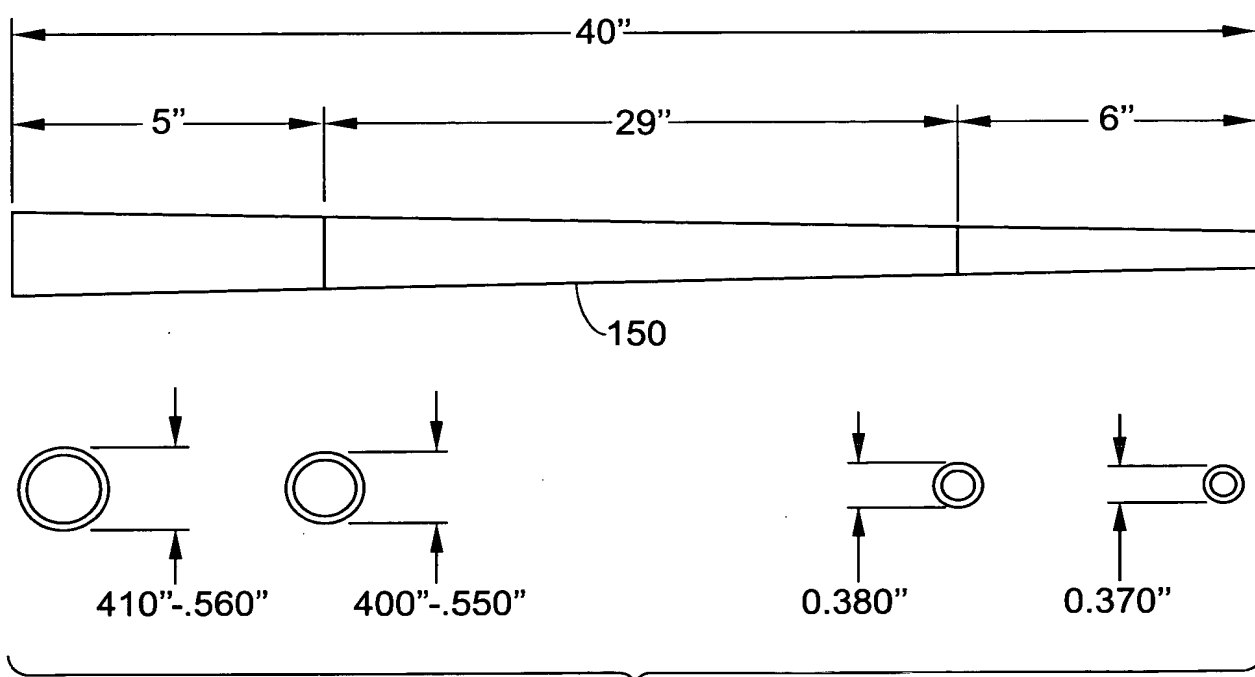
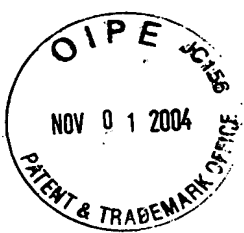


FIG. 9B



CANILEVER BEAM

CASE 1:

LENGTH = 45"

OD/STD. = .620"

OD/SMALL = .540"

TIP LOAD = 6 lb.

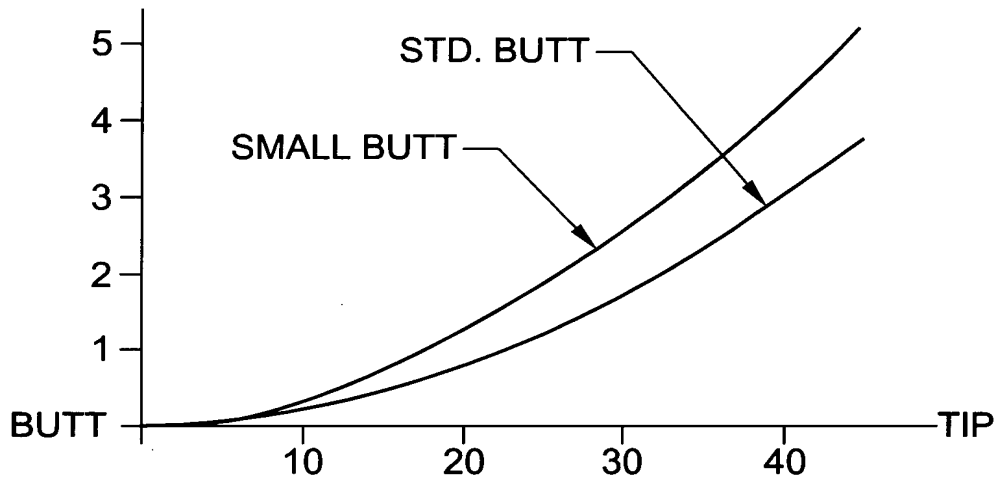


FIG. 10

SIMPLY SUPPORTED BEAM

CASE 1:

LENGTH = 45"

OD/STD. = .620"

OD/SMALL = .540"

MOMENT, @BUTT = 1 ft. lb.

MOMENT, @TIP = 1 ft. lb.

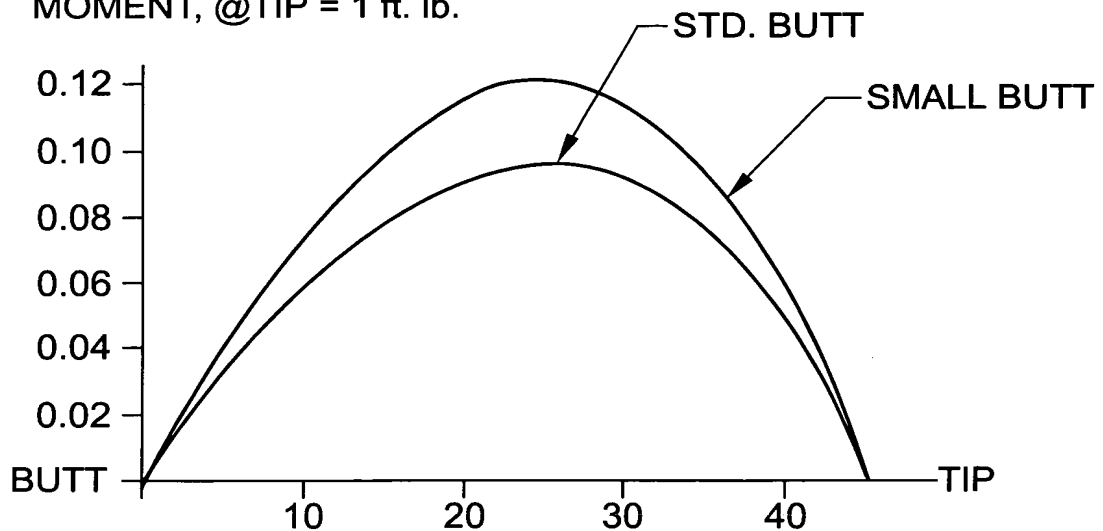


FIG. 11